# **Referral readiness indicator: Scoring instructions by level**

**Essential readiness scoring**

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| **Transportation readiness** | | | | | | | |
| Short name | Question no. | Survey question | Response options | | | | Criteria |
| Vehicle | 101\* | Does this health facility use any vehicles for emergency transport that are located **offsite**? | Yes 1  No 0 | | | | To meet essential transportation readiness, a health facility must have access to at least one functional motor vehicle that is available 24/7, have sufficient fuel for transport and a driver.  The vehicle can be either offsite or onsite. If offsite, it must be able to arrive in less than 30 minutes to the health facility. If vehicle is onsite, driver must be ready within 30 minutes at all times the health facility offers services. Offsite vehicles are assumed to arrive with a driver.  Offsite vehicles:  [(102a=1 or 102b=1 or 102c=1)  AND  103=1  AND  105=4  AND  106 =< 30 minutes  AND  107=1]  OR  Onsite vehicles:  [111=1  AND  113=1  AND  114=4  AND  115=< 30 minutes  AND  (116=4 or 7)  AND  117=< 30 min (or skipped if 116=7)  AND  119=1] |
| Vehicle | 102\* | Which of the following offsite vehicles does the health facility use for emergency transport? (*read each item)* |  |  |  |  |
|  |  |  |  |  |
| *When we say “ambulance” we mean a vehicle that permits monitoring and intervention during transport. This can include a helicopter or boat if they are set up for continued clinical care.* |  |  |  |  |
|  | Yes | No |  |  |
| a)      Motorized **ambulance(s) located offsite** (e.g., at another health facility or central location) | 1 | 0 |  |  |
| b)       **Non-ambulance motor vehicle(s) located offsite** (e.g., vehicles from the District Health Office or local council) | 1 | 0 |  |  |
| c)       A **centrally coordinated ambulance system** (e.g., through a dispatch center) | 1 | 0 |  |  |
| d)      **Agreements** with private taxis, cars, trucks or motorcycles | 1 | 0 |  |  |
| e)      Other, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1 | 0 |  |  |
| Vehicle availability | 103\* | Are these vehicles available 24 hours a day, 7 days a week? | Yes 1  No 0 | | | |
| Vehicle availability | 105\* | When requested by facility staff, how reliably does the vehicle come to your health facility? | Always 4  Most of the time 3  Sometimes 2  Rarely 1  Never 0 | | | |
| Vehicle availability | 106\* | Generally, how long does it take for the vehicle to arrive at your facility from the time you request it?  Think about the last 5 calls you made to give an estimate. Include the full amount of time from the moment you call to request the vehicle until it is parked at your health facility. | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes | | | |
| *(record time in minutes under typical circumstances; 9999 = does not know)* |
| Fuel | 107\* | When the vehicle reaches your facility, does it typically have sufficient fuel for referral transport? | Yes 1  Sometimes 2  No 0 | | | |
| Vehicle | 110\* | Does this health facility use any motor vehicles for emergency transport located **onsite** at the facility? | Yes 1  No 0 | | | |
| Vehicle | 111\* | Do you have at least one ambulance or motor vehicle for emergency transport that is available and functional today? | Yes 1  No 0 | | | |
| Driver | 113\* | Does this facility have a driver(s) on-staff to transport patients? | Yes 1  No 0 | | | |
| Driver availability | 114\* | When the health facility is **open**, how often is a driver available to transport a patient with an emergency? Would you say always, most of the time, sometimes, rarely or never? | Always 4  Most of the time 3  Sometimes 2  Rarely 1  Never 0 | | | |
| Time until driver availability =<30min | 115\* | When the health facility is **open** and the driver is contacted, how long does it typically take them to be onsite and ready? | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes | | | |
| *(record time in minutes under typical circumstances; 9999 = does not know)* |
| Driver availability | 116\* | When the facility is **closed**, how often is a driver available to transport a patient with an emergency? Would you say always, most of the time, sometimes, rarely or never? | Always 4  Most of the time 3  Sometimes 2  Rarely 1  Never 0  Facility does not offer emergency transport when closed 7 | | | |  |
| Time until driver availability =<30min | 117\* | When the facility is **closed** and the driver is contacted, how long does it typically take them to be onsite and ready? | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes | | | |
| *(record time in minutes under typical circumstances; 9999 = does not know)* |
| Fuel | 119\* | Is sufficient fuel available today for referral transport if needed? | Yes 1  No 0  Don’t know 8 | | | |
| Vehicle | 129\* | Which of the following onsite motor vehicles does the health facility use for emergency transport? (*read each item)* |  |  |  |  |
|  |  |  |  |  |  |
| *When we say “ambulance” we mean a vehicle that permits monitoring and intervention during transport. This can include a helicopter or boat if they are set up for continued clinical care.* |  |  |  |  |  |
|  | Yes | No |  |  |  |
| a)       Motorized **ambulance(s) located onsite** | 1 | 0 |  |  |  |
| b)      **Non-ambulance motor vehicle(s) located onsite** (e.g., car, pick up, minibus, motorcycle, motorboat, etc.) | 1 | 0 |  |  |  |
| c)       Other, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1 | 0 |  |  |  |
| Vehicle | 133\* | Does this health facility use any of the following other strategies for emergency transportation? (*read each item)* | Yes | No |  |  |  |
| a)       **Non-motorized** transportation options located **onsite** (e.g., bicycle, bicycle ambulance, paddle boat, canoe, animal drawn cart, stretcher (not part of ambulance)) | 1 | 0 |  |  |  |
| b)      **Non-motorized** transportation options located **offsite** (e.g., bicycle, bicycle ambulance, paddle boat, canoe, animal drawn cart, stretcher (not part of ambulance)) | 1 | 0 |  |  |  |
| c)      **Assist patients** and families to organize private transport (ad hoc, no formal agreements) | 1 | 0 |  |  |  |
| d)       Patients and **families are responsible** for arranging their own transportation | 1 | 0 |  |  |  |
| e)      Other, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1 | 0 |  |  |  |

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| **Referral efficiency & coordination of care** | | | | | | | | |
| Short name | Question no. | Survey question | Response options | | | | Criteria |
| Referral criteria | 201\* | Does this health facility have explicit written **criteria** to determine when obstetric and newborn cases should be referred (referral criteria)? *Verify by observation.*  *When we say referral criteria, we mean a set of evidence-based guidelines for clinicians to determine when a patient needs to be referred to a higher level of care, typically based on facility level capacity, the severity of a patient’s condition and likelihood of the condition worsening.* | Yes, observed 1  Yes, not observed 2  No 0 | | | | To meet essential referral efficiency and coordination of care, a health facility must have referral criteria, referral guidelines, pre-referral management guidelines and a policy to call ahead to receiving facilities as well as at least one form of communication that is free or supported by the health facility.  201=1  AND  203=1  AND  208=1  AND  212=1  AND  (217=1 OR 218=1 OR ((219a=1 OR 219b=1) AND (229=2 or 3)) OR 222=1 OR ((225=1 OR 219b=1 OR 220b=1) AND (223=1 OR 224=1) AND (230=2 or 3)) OR ((220a=1 OR 220b=1) AND 227=1 AND 228=1 AND (229=2 or 3)) |
| Referral protocols | 203\* | Does this health facility have a predefined set of steps to carry out an emergency referral (referral protocols, or procedures)? For example, the WHO Acute Transfer Checklist.[[1]](#footnote-1) *Verify by observation.* | Yes, observed 1  Yes, not observed 2  No 0 | | | |
| Pre-referral guidance | 208\* | Does this facility have explicit written **guidelines or protocols for the management** **and stabilization** of clients with major obstetric and newborn complications before they are referred (pre-referral management guidelines)? *Verify by observation.*  *When we say pre-referral management guidelines we mean the clinical guidelines to manage emergency conditions and stabilize patients prior to referral.* | Yes, observed 1  Yes, not observed 2  No 0 | | | |
| Call ahead policy | 212\* | Is there a policy at this facility to **call ahead** to inform a receiving facility that a patient is coming, when referring a patient to a higher level of care? *Verify by observation.* | Yes, observed 1  Yes, not observed 2  No 0 | | | |
| Functional communication method with no financial burden on provider | No. | Item | Is at least one available & functional? | | | |
|  | Yes | No |  |  |
| 217\* | Landline/Wireless telephone in the maternity or neonatal areas |  | 1 | 0 |  |
| 218\* | Landline/Wireless telephone elsewhere in facility |  | 1 | 0 |  |
| 219a\* | Basic cell phone (owned by facility, cannot access internet) |  | 1 | 0 |  |
| 219b\* | Smart phone (owned by facility, can access internet) |  | 1 | 0 |  |
| 220a\* | Basic cell phone (owned by individual staff, cannot access internet) |  | 1 | 0 |  |
| 220b\* | Smart phone (owned by individual staff, can access internet) |  | 1 | 0 |  |
| 221\* | Public telephone in the vicinity |  | 1 | 0 |  |
| 222\* | Two-way radio |  | 1 | 0 |  |
| 223\* | Internet connection/signal in the maternity or neonatal areas |  | 1 | 0 |  |
| 224\* | Internet connection/signal elsewhere in the facility |  | 1 | 0 |  |
| 225\* | Computer (owned by facility) |  | 1 | 0 |  |
| 227\* | Is there a toll-free number to reach a centrally coordinated emergency services unit that serves this area? | Yes 1  No 0  Don’t know 8 | | | |  |
| 228\* | Is the toll-free number available 24 hours a day, 7 days a week? | Yes 1  No 0  Don’t know 8 | | | |
| Communication network availability | 229\* | How is the cell phone signal at this facility? Would you say it is very dependable, somewhat dependable or not very dependable? Or does it not exist? | No cell phone signal 0  Not very dependable 1  Somewhat dependable 2  Very dependable 3 | | | |  |
| Communication network availability | 230\* | How is the internet network at this facility? Would you say it is very dependable, somewhat dependable or not very dependable? Or does it not exist? | No internet network 0  Not very dependable 1  Somewhat dependable 2  Very dependable 3 | | | |  |

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| **Care during transport** | | | | | | | | |
| Short name | Question no. | Survey question | Response options | | | | Criteria |
| Provider accompaniment - policy | 301\* | Is there a policy at this health facility for a service provider to accompany a patient being referred? | Yes, observed 1  Yes, not observed 2  No 0 | | | | To offer essential care during transport, a health facility must have a policy that patients being referred are accompanied by a service provider, that this is typically practiced, that the providers have the skills to perform key emergency maternal and newborn clinical tasks and the equipment to do so. Further, providers must be trained in how to transfer small and sick newborns and typically transfer newborns in KMC position, incubator or radiant warmer.  301=1 AND 302=1 AND  [ (If offsite vehicle (102a,b or c=1) then, (108a=1 AND 108b=1 AND 108c=1 AND 108d=1 AND 108e=1 AND 108f=1 AND 108g=1 AND 108h=1 AND 108i=1 AND 108j=1 AND 108k=1 AND 108l=1 AND 108m=1))  OR  (If onsite vehicle (111=1) then, (128a=1 AND 128b=1 AND 128c=1 AND 128d=1 AND 128e=1 AND 128f=1 AND 128g=1 AND 128h=1 AND 128i=1 AND 128j=1 AND 128k=1 AND 128l=1 AND 128m=1)) ]  AND  305a=1 AND 305b=1 AND 305c=1 AND 305d=1 AND 305e=1 AND 305f=1 AND 305g=1 AND 305h=1 AND 305i=1  AND  306=1 AND (310=1 or 2)  *Please note items 108n and 128n are not required for essential readiness* |
| Provider accompaniment - practice | 302\* | How often does a service provider accompany the patient being referred? Would you say usually, sometimes, rarely or never? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 | | | |
| Medical equipment in vehicle | 108\* | Which of the following are typically available in the **offsite** emergency vehicle(s)? | Yes | No | DK |  |
| *(read each item)* |  |  |  |  |
| a)       IV fluids | 1 | 0 | 8 |  |
| b)      Oxytocin or other intravenous uterotonic | 1 | 0 | 8 |  |
| c)       Incubator, radiant warmer, plastic covering, or embrace warmer | 1 | 0 | 8 |  |
| d)      Oxygen | 1 | 0 | 8 |  |
| e)      Newborn pulse oximeter | 1 | 0 | 8 |  |
| f)        Bag and mask, for newborns | 1 | 0 | 8 |  |
| g)       Bag and mask, for adults | 1 | 0 | 8 |  |
| h)      Intravenous magnesium sulfate | 1 | 0 | 8 |  |
| i)        Anti-hypertensive medication | 1 | 0 | 8 |  |
| j)        Blood pressure monitoring equipment | 1 | 0 | 8 |  |
| k)       Personal protective equipment | 1 | 0 | 8 |  |
| l)        Stretcher | 1 | 0 | 8 |  |
| m)    Locally available pain control agents | 1 | 0 | 8 |  |
| 128\* | Which of the following are available in the **onsite** emergency vehicle(s) today? |  |  |  |  |
| *(read each item)* | Yes | No | DK |  |
|  |  |  |  |  |
| a)       IV fluids | 1 | 0 | 8 |  |
| b)      Oxytocin or other intravenous uterotonic | 1 | 0 | 8 |  |
| c)       Incubator, radiant warmer, plastic covering, or embrace warmer | 1 | 0 | 8 |  |
| d)      Oxygen | 1 | 0 | 8 |  |
| e)      Newborn pulse oximeter | 1 | 0 | 8 |  |
| f)        Bag and mask, for newborns | 1 | 0 | 8 |  |
| g)       Bag and mask, for adults | 1 | 0 | 8 |  |
| h)      Intravenous magnesium sulfate | 1 | 0 | 8 |  |
| i)        Anti-hypertensive medication | 1 | 0 | 8 |  |
| j)        Blood pressure monitoring equipment | 1 | 0 | 8 |  |
| k)       Personal protective equipment | 1 | 0 | 8 |  |
| l)        Stretcher | 1 | 0 | 8 |  |
| m)    Locally available pain control agents | 1 | 0 | 8 |  |
| Provider - skills | 305\* | Would you say that all the service providers who accompany maternal and newborn referrals have the training and skills to perform the following functions: | All | Some | None | DK |
| (*read each item)* |  |  |  |  |
| a)       Provide IV fluids | 1 | 2 | 0 | 8 |
| b)      Control bleeding with external maneuvers (uterine massage, compression, aortic compression, NASG) | 1 | 2 | 0 | 8 |
| c)       Administer uterotonics | 1 | 2 | 0 | 8 |
| d)      Maintain newborn body temperature through ongoing kangaroo care and covering | 1 | 2 | 0 | 8 |
| e)      Ensure airway patency through positioning or head tilt/chin lift and monitored by observation | 1 | 2 | 0 | 8 |
| f)        Maintain newborn respiratory support via O2 and bag mask ventilation, | 1 | 2 | 0 | 8 |
| g)       Monitor newborns thorough observation and vital signs with pulse oximetry; | 1 | 2 | 0 | 8 |
| h)      Perform neonatal CPR for heart rates < 60 beats per minute | 1 | 2 | 0 | 8 |
| i)        Provide obstetric and neonatal pain control in accordance with local guidelines | 1 | 2 | 0 | 8 |
| Provider newborn training | 306\* | Have the service providers who accompany newborn referral patients from this health facility been trained on how to transfer small and sick newborns? | Yes, all 1  Yes, some 2  No, none 3  Not applicable, do not send providers 5  Don’t know 8 | | | |  |
| Newborn transfer | 310\* | How are newborns typically transferred out of this facility to another facility? | By skin-to-skin/Kangaroo care (KMC) 1  By incubator/radiant warmer 2  By hand 3  In a cot 4 | | | |

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| **Financial accessibility of referral** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Pay service costs pre-referral | 402\* | When a maternal or newborn client is referred for emergency care, do expenses at this facility need to be cleared before they are referred? | Yes 1  No 0  Not applicable, services are free 2 | Essential financial accessibility of referral is denoted by a health facility that ensures costs related to services or transport do not delay referral.  (402=1 or 2) AND (403=0 or 4) |
| Pay transport costs before further care | 403\* | When a maternal or newborn client is referred for emergency care, do **transport expenses** (vehicle or fuel) have to be paid before they are transferred or admitted to the next facility? | Yes, for ambulance/vehicle 1  Yes, for fuel 2  Yes, for both 3  No 0  Not applicable, transport is free 4 |

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| **Family-centered referral** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Policy - minimize separation | 501\* | Is there a policy at this facility to minimize separation between a parent/caregiver and newborn, including during referral? | Yes, observed 1  Yes, not observed 2  No 0 | An essential level of family-centered referral is achieved when a health facility has policies in place to allow at least one family member/caregiver and birth companion to accompany a patient during referral. 501=1 AND 502=1 |
| Policy - birth companion | 502\* | Is there a policy at this facility to allow a birth companion to accompany a client being referred for an obstetric emergency in a facility-supported emergency vehicle? | Yes, observed 1  Yes, not observed 2  No 0 |

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| **Inter-facility relational dynamics** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Directory | 601\* | Is there a list of organizations or facilities that provide obstetric and newborn care, and other related services, in the area (directory)? | Yes, observed 1  Yes, not observed 2  No 0 | To ensure adequate inter-facility collaboration, a health facility needs, at minimum, a directory of facilities and a policy requiring staff to confirm receiving facility capacity prior to referral.  601=1 AND (609=1 OR 609=7) |
| Policy - confirm receiving facility capacity | 609\* | Is there a policy at this facility to confirm a receiving facility’s capacity to handle an incoming referral when making contact? (e.g., available beds, blood supply, electricity, staffing, etc.) | Yes, observed 1  Yes, not observed 2  No 0  Not applicable, central coordinating unit does this 7 |

**Improved readiness**

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| **Transportation readiness** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Vehicle exclusivity | 104 | OFFSITE VEHICLES: Are these vehicles reserved exclusively for emergency medical transport? | Yes 1  No 0 | To meet improved transportation readiness, a health facility must meet all the essential requirements as well as the following: ensuring the transport vehicle is reserved exclusively for emergency medical transport, be able to mobilize the vehicle within 15 minutes, have a fuel management plan and reserve, have a schedule and funds for vehicle maintenance and repairs, a policy and practice of routine vehicle disinfection, and a schedule for the maintenance of medical equipment in the vehicle.  Essential criteria  +  OFFSITE VEHICLES: (104=1  AND  106=< 15 minutes)  OR  ONSITE VEHICLES: (112=1 or 2 AND 115=< 15 minutes AND (117=< 15 minutes (or skipped if 116=7)) AND 120=1 AND 121=1 AND 122=1 AND 124=1 AND 125=1 AND 126=2 AND 127=1 or 2 AND 130=1)  *\*Please note if 116=0, health facility automatically does not meet improved transport readiness* |
| Vehicle exclusivity | 112 | ONSITE VEHICLES: Are the onsite ambulances/motor vehicles reserved exclusively for emergency medical transport? | Yes, all 1  Some of them 2  No, none 0 |
| Time until offsite vehicle availability =<15min | 106 | Generally, how long does it take for the vehicle to arrive at your facility from the time you request it? Think about the last 5 calls you made to give an estimate. Include the full amount of time from the moment you call to request the vehicle until it is parked at your health facility. | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes |
| *(record time in minutes under typical circumstances; 9999 = does not know)* |
| Time until driver availability =<15min | 115 | When the health facility is **open** and the driver is contacted, how long does it typically take them to be onsite and ready? | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes |
| *(record time in minutes under typical circumstances; 9999 = does not know)* |
| 116\* | When the facility is **closed**, how often is a driver available to transport a patient with an emergency? Would you say always, most of the time, sometimes, rarely or never? | Always 4  Most of the time 3  Sometimes 2  Rarely 1  Never 0  Facility does not offer emergency transport when closed 7 |
| 117 | When the facility is **closed** and the driver is contacted, how long does it typically take them to be onsite and ready? | |\_\_\_|\_\_\_|\_\_\_|\_\_\_|  minutes |
|  | *(record time in minutes under typical circumstances; 9999 = does not know)* |
| Fuel plan | 120 | Does the facility have a fuel management plan? | Yes 1  No 0  Don’t know 8 |
| *By fuel management plan, we mean a plan to handle fuel-related issues (such as shortages or gas station closures) with an adequate budget* |
| Fuel reserve | 121 | Does the facility have a fuel reserve or buffer stock available today? | Yes 1  No 0  Don’t know 8 |
| Mechanical maintenance schedule | 122 | Is there a routine preventive maintenance schedule for onsite emergency vehicles? | Yes 1  No 0  Don’t know 8 |
| Funds for repairs | 124 | Are there funds available today for maintenance and repairs if they were needed? | Yes 1  No 0  Don’t know 8 |
| Disinfection policy | 125 | Is there a policy at this facility to disinfect surfaces contacted by patients in the emergency transport vehicles after each use? | Yes, observed 1  Yes, not observed 2  No 0  Don’t know 8 |
| Disinfection practice | 126 | Are surfaces contacted by patients in the emergency transport vehicles disinfected after each use? | Always 2  Sometimes 1  Never 0 |
| Disinfection practice | 127 | Are emergency transport vehicles disinfected on a routine schedule? | Yes, daily 1  Yes, at least weekly 2  Yes, monthly or less frequently 3  Irregularly 4  No routine disinfecting schedule 0  Don’t know 8 |
| Equipment maintenance schedule | 130 | Is there a routine preventive maintenance schedule formedical equipment onboard your onsite ambulance(s)? | Yes 1  No 0  Don’t know 8 |

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| **Referral efficiency & coordination of care** | | | | | | | |
| Short name | Question no. | Survey question | Response options | | | | Criteria |
| Referral criteria training | 202 | Have all staff been trained on the referral criteria? | Yes 1  No 0  Don’t know 8 | | | | To meet improved referral efficiency and coordination of care, a health facility must build upon the essential criteria (namely having policies, guidelines and forms for referral), such that staff are trained in these directives. In addition, a health facility must regularly use standard referral forms and call ahead to a receiving facility. Further, facilities should have a referral register, a closed user group to coordinate referrals and a mode of communication available during transfer.  Essential criteria + 202=1 AND 204=1 AND 206=1 AND 209=1 AND 210=1 AND 211=1 AND 213=1 AND 215=1 AND 226=1 AND  If have offsite vehicle: (109a=1 OR 109b=1)  If have onsite vehicle: (118=1 OR 132=1) |
| Focal person | 204 | Do the steps of referral (referral procedures or protocols) clearly indicate who is responsible for coordinating a referral? | Yes 1  No 0  Don’t know 8 | | | |
| Referral protocol training | 206 | Have all relevant staff been trained on the steps of referral (protocols/ procedures)? | Yes 1  No 0  Don’t know 8 | | | |
| Pre-referral guidance training | 209 | Have all relevant staff been trained on the pre-referral management and stabilization guidelines or protocols? | Yes 1  No 0  Don’t know 8 | | | |
| Referral form | 210 | When patients are referred out for emergency care, how often do they leave accompanied with a **referral form**? Would you say usually, sometimes, rarely or never? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 | | | |
| Referral form | 211 | Is the form standardized (used at other facilities too) or is it a form used only in this facility? | Standardized 1  Used only by this facility 2  Both types are used 3  Don’t know 8 | | | |
| Call ahead practice | 213 | When referring a patient for emergency care, how often does staff call ahead to inform the receiving facility or a centrally coordinated ambulance system that the patient is coming? Would you say usually, sometimes, rarely or never? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 | | | |
| Referral register | 215 | Does this health facility have a register that is dedicated to documenting patients being referred out? *Verify by observation.* | Yes, observed 1  Yes, not observed 2  No 0 | | | |
| Communication in transit | 109 | Are the offsite emergency vehicles equipped with any of the following communication methods? |  |  |  |  |
| *(read each item)* | Yes | No | DK |  |
| a)       Two-way radio | 1 | 0 | 8 |  |
| b)      Cellphone or airtime paid for by coordinating service or health system | 1 | 0 | 8 |  |
| c)       Other, specify: \_\_\_\_\_\_\_\_\_\_\_ | 1 | 0 | 8 |  |
| Communication in transit | 118 | Are the drivers at this facility given a facility-supported cell phone or airtime to use during patient transport? | Yes 1  No 0  Don’t know 8 | | | |  |
| Communication in transit | 132 | Is your onsite ambulance equipped with a two-way radio? | Yes 1  No 0  Don’t know 8 | | | |
| Closed user group | 226 | Is there a closed user group (e.g., a WhatsApp group) that is used to coordinate emergency referrals between facilities in your area? | Yes 1  No 0  Don’t know 8 | | | |

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| **Care during transport** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Provider accompaniment - location | 303 | When a service provider accompanies a patient being referred, where do they typically ride in the vehicle? | In front with driver 0  In back with patient 1  In a separate vehicle 2  Don’t know 8 | Improved care during transport is achieved when the essential criteria are met and the accompanying provider rides directly with the patient and has access to clinical support.  Essential criteria + 303=1 AND 304=1 |
| Access to real-time medical expertise | 304 | How often does the provider accompanying the patient have real-time access to medical expertise to help guide care during transport (for example, calling the receiving facility to discuss care with an obstetrician or pediatrician) | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 |

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| **Financial accessibility of referral** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Costs communicated | 401 | Are the costs related to emergency referral clearly indicated in the health facility for clients to see? Even if referral is free, is it indicated? | Yes, observed 1  Yes, not observed 2  No 0 | Improved financial accessibility of referral entails meeting essential criteria as well as transparency in referral costs, offering financial options to cover costs for low income clients and budgeting for referral expenditures..  Essential criteria + 401=1 AND (404=1 or 2) AND (405=1 or 2) AND (408=1 or 2) |
| Financial options for clients | 404 | At this health facility, are there financial options to cover the costs of emergency **services** for patients who cannot pay? | Yes 1  No 0  Not applicable 2 |
| Financial options for clients | 405 | At this health facility, are there financial options to cover the costs of emergency **transportation** for patients who cannot pay? | Yes 1  No 0  Not applicable 2 |
| Budget for referral | 408 | Does this facility have a line item in its annual budget for referral-related expenses? | Yes 1  No 0  Not applicable 2  Don’t know 8 |

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| **Family-centered referral** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Explain to family | 503 | In cases of emergency obstetric and newborn referrals, how often does staff explain to families where and why their family member is being referred? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 | Improved family-centered referral expands upon the essential policies to incorporate best practices of meaningful and respectful communication with the family, and active engagement of patient companions.  Essential criteria + 503=1 AND 504=1 AND 505=1 AND 506=1 AND 507=1 AND 508=1 AND 509=1 |
| Consent to refer | 504 | In cases of emergency obstetric and newborn referrals, how often does staff ask the patient or their proxy (parent, caregiver or chosen birth companion) for consent to refer? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 |
| Accompaniment of patient | 505 | In cases of emergency newborn referrals, how often is the newborn accompanied by a parent or caregiver during transfer? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 |
| Accompaniment of patient - location in vehicle | 506 | When a parent/caregiver accompanies a newborn during an emergency referral, where do they typically ride in the vehicle? | In front with driver 0  In back with patient 1  In a separate vehicle 2  Don’t know 8 |
| KMC assistance to caregiver | 507 | When a parent/caregiver accompanies a newborn during an emergency referral, how often are they given assistance to safely transfer their newborn in the kangaroo care (KMC) position? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 |
| Accompaniment of patient | 508 | In cases of emergency obstetric referrals, how often is the client accompanied by their chosen birth companion during transfer? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 |
| Accompaniment of patient - location in vehicle | 509 | When a birth companion accompanies a client being referred for an obstetric complication, where do they typically ride in the vehicle? | In front with driver 0  In back with patient 1  In a separate vehicle 2  Don’t know 8 |

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| **Inter-facility relational dynamics** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Directory - information on services | 602 | Does the health facility have the contact information for all services at receiving health facilities? | Yes, observed 1  Yes, not observed 2  No 0 | Building upon essential inter-facility relational dynamics, for improved referral, health facilities should have directories that contain critical up-to-date information and well-defined formal agreements with receiving facilities, as well as a practice of confirming a receiving facility's capacity prior to referral.  Essential criteria + 602=1 AND 603=1 AND 604=1 AND 605=1 AND 606=1 AND 607=1 AND (610=1 or 7) |
| Directory - contact information | 603 | Does the health facility have information on the location and hours of operations for each receiving facility or organization? | Yes, observed 1  Yes, not observed 2  No 0 |
| Directory - updates | 604 | Is the contact information, hours of operation, and list of available services kept up-to-date? | Yes 1  No 0  Don’t know 8 |
| Formal agreement | 605 | Is there a written agreement between this health facility and at least one facility that can receive referrals or a central coordinating body for emergency services?  *We are not referring to a national health policy that describes how referral works. Here we mean an agreement specifically at this local level.* | Yes, observed 1  Yes, not observed 2  No 0 |
| Formal agreement - referral procedures | 606 | Does the written agreement describe how referrals are to be carried out? | Yes, observed 1  Yes, not observed 2  No 0 |
| Formal agreement - communication | 607 | Does the written agreement describe what information must be communicated during a referral? | Yes, observed 1  Yes, not observed 2  No 0 |
| Confirming receiving facility capacity - practice | 610 | How often does staff confirm a receiving facility’s capacity to handle an incoming patient when making referrals? | Never 0  Usually 1  Sometimes 2  Rarely 3  Not applicable, central coordinating unit does this 7  Don’t know 8 |

**Advanced readiness**

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| **Transportation readiness** | | | | | | | | |
| Short name | Question no. | Survey question | Response options | | | | Criteria |
| Mechanical maintenance practice | 123 | How often does routine preventive maintenance for **onsite** emergency vehicles take place? | Never 0  Irregularly 1  Every 5000km 2  Every 1000km 3  Don’t know 8 | | | | A referral system with advanced transportation readiness not only meets essential and improved criteria, it also has a regular practice of vehicle and medical equipment maintenance, and vehicles that can handle transportation barriers.  Essential criteria + Improved criteria +  If have any onsite vehicles (if health facility only uses offsite vehicles skip to “for all sites”): (123=2 or 3 AND 131=2 or 3) AND  **For all sites**, if any of 134a-g=1, then 135=1 |
| Equipment maintenance practice | 131 | How often does routine preventive maintenance of medical equipment onboard your **onsite** ambulance(s) take place? | Never 0  Irregularly 1  Annually 2  Quarterly 3  Don’t know 8 | | | |
| Transportation barriers | 134 | What barriers disrupt the route(s) to the nearest health facility where you refer emergency obstetric and newborn patients? |  |  |  |  |
|  | Yes | No |  |  |
| a)       Significant traffic | 1 | 0 |  |  |
| b)      Poor or narrow roads | 1 | 0 |  |  |
| c)       Roadblocks or closures (may be due to livestock, construction, demonstrations, etc.) | 1 | 0 |  |  |
| d)      Seasonal weather conditions (rainy season, winter conditions, dust storms, etc.) | 1 | 0 |  |  |
| e)      Mountainous terrain (including potential for rocks falling and avalanches) | 1 | 0 |  |  |
| f)        Extreme weather events (e.g., cyclones, typhoons, hurricanes, fires, etc.) | 1 | 0 |  |  |
| g)       Other, specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1 | 0 |  |  |
| Mitigating transportation barriers | 135 | Are the emergency transportation options available at your facility equipped to handle these barriers? | Yes, completely 1  Yes, somewhat 2  No, not at all 3  Not applicable, no transport available 4  Don’t know 8 | | | |
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| *For example, having a siren to navigate traffic, four-wheel drive for difficult terrain, winter tires and deicing fluid for winter weather, an emergency raft, reinforced windows, a bulbar, etc.* |

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| **Referral efficiency & coordination of care** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Referral criteria practice | 207 | How often are the steps of referral (protocols/procedures) followed when referring a maternal or newborn patient out for emergency care? | Never 0  Usually 1  Sometimes 2  Rarely 3  Don’t know 8 | Advanced referral efficiency and coordination of care comprises regular use of referral guidelines and referral register, clear communication guidance and a dependable communications network.  Essential criteria + Improved criteria +  207=1 AND 214=1 AND 216=1 |
| Communication guidance | 214 | Does this health facility have clear guidance on what information should be communicated when contacting a receiving facility about a referral? (For example, a communication protocol or job aid) *Verify by observation.* | Yes, observed 1  Yes, not observed 2  No 0 |
| Register use | 216 | Is the register routinely used to document outbound referrals? *(check if it has been filled out in the last week) Verify by observation.* | Yes, observed 1  Yes, not observed 2  No 0 |

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| **Care during transport** | | | | | | |
| Short name | Question no. | Survey question | Response options | | | Criteria |
| Refresher trainings | 307 | Do service providers who accompany maternal and newborn referral patients participate in regular emergency services refresher trainings? | Yes 1  No 0  Not applicable, do not send providers 2  Don’t know 8 | | | Advanced care during transport is defined by having more specialized providers attending to patients during referral such that in-house providers are regularly trained or there are external providers formalized into an emergency service cadre. In addition, CPAP equipment must be available during transport.   Essential criteria + Improved criteria +  [Health facilities that exclusively use a central coordinating unit for referrals: 311=1  OR All other health facilities: (307=1 AND ((309=4 if 308=<3) OR ((309=5 or 6) if 308<5) OR (309=3 if 308=<2) OR (309=2 if 308=1)) ]  AND (108n=1 OR 128n=1) |
| (This may include pre-referral management, first aid, emergency assessment, using KMC during transfer, etc.) |
| Frequency of refresher trainings | 308 | How often do providers participate in the regular refresher trainings? | Monthly 1  Quarterly 2  Biannually (twice/year) 3  Annually 4  Less than annually 5  Don’t know 8 | | |
| Length of refresher trainings | 309 | How long is the refresher training? | Less than 1 hour 1  1-2 hours 2  4 hours/half day 3  8 hours/one day 4  2 days 5  3 days or more 6  Don’t know 8 | | |
| Formal emergency medical services cadre | 311 | Are referral patients from this health facility accompanied by emergency services providers who are entirely dedicated to providing emergency transport? (for example, an emergency medical technician) | Yes, always 1  Yes, sometimes 2  Never 3 | | |
| CPAP availability | 108 | Which of the following are typically available in the **offsite** emergency vehicle(s)? | Yes, obs | Yes, not obs | No |  |
|  | *(read each item)* |
|  | n)       Continuous positive airway pressure driver system with accessories | 1 | 2 | 0 |
| CPAP availability | 128 | Which of the following are available in the **onsite** emergency vehicle(s) today? | Yes, obs | Yes, not obs | No |  |
|  | *(read each item)* |
|  | n)       Continuous positive airway pressure driver system with accessories | 1 | 2 | 0 |

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| **Financial accessibility of referral** | | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Reimburse accompanying providers | 406 | Does this facility have a mechanism to cover the costs for a service provider to accompany a patient being referred (such as return transport, per diem, lodging, etc.)? | Yes 1  No 0  Don’t know 8 | Financial accessibility meets advanced criteria by first meeting essential and improved criteria, with the addition of sufficient referral budgeting, covering the costs of providers to accompany referrals and mechanisms for reimbursement of referral costs.  Essential criteria + Improved criteria +  406=1 AND (407=1 or 2) AND  409=1 |
| Recuperating referral costs at facility | 407 | Can this facility recuperate costs of referral through a health insurance scheme or other mechanism? | Yes 1  No 0  Not applicable 2 |
| Sufficient budget for referral | 409 | Is the budgeted amount for referral-related expenses typically sufficient to cover all annual costs? | Yes 1  No 0  Don’t know 8 |

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| **Family-centered referral** | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Feedback | 510 | Does the facility actively seek community feedback on the referral process? | Yes 1  No 0  Don’t know 8 | Criteria for advanced family-centered referral build upon the essential and improved criteria whereby facilities must seek community feedback on referral, prepare families for referral during ANC, and train and support providers to meaningfully and respectfully engage with clients and their families.  Essential criteria + Improved criteria +  510=1 AND (511=1 or 4) AND 512=1  AND 205=1 |
| Referral preparation during ANC | 511 | During antenatal care, how common is it for providers to counsel clients on the possibility of emergency referral and its cost? | Never 0  Usually 1  Sometimes 2  Rarely 3  Not applicable, does not offer ANC 7  Don’t know 8 |
| Provider training in family-centered care | 512 | Have all staff providing obstetric and newborn care at this facility been trained on family-centered, patient-centered or respectful maternity care? | Yes, all 1  Some of them 2  No, none 0  Don’t know 8 |
| Guideline - communication to families | 205 | Do the steps of referral (protocols/ procedures) describe how to communicate with and counsel families on referral? | Yes 1  No 0  Don’t know 8 |

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| **Inter-facility relational dynamics** | | | | |
| Short name | Question no. | Survey question | Response options | Criteria |
| Problem-solving mechanism | 608 | Is there a mechanism in place for collaborative problem-solving related to referral with this facility’s receiving facility(ies)? For example, a district-level referral meeting or consortium. | Yes 1  No 0  Don’t know 8 | Advanced level inter-facility relational dynamics are characterized by working collaborations with receiving facilities, a positive relationship and confidence in the care offered at receiving facilities.  Essential criteria + Improved criteria +  608=1 AND 611=1 AND 612=3 AND 613=3 AND 614=3 |
| Remote pre-referral clinical support | 611 | Does this facility have a mechanism for staff to receive remote clinical support in the event of a referral? (e.g., to assist with pre-referral management and stabilization) | Yes 1  No 0  Don’t know 8 |
| Provider connections | 612 | *(Ask nurse in-charge of maternal and newborn health care)* | Many 3  Some 2  Few 1  None 0 |
| Have you personally met providers at this facility’s receiving facility(ies)? Would you say you have met many, some, few or none? |
| Provider interactions | 613 | *(Ask nurse in-charge of maternal and newborn health care)* | Usually 0  Sometimes 1  Rarely 2  Never 3 |
| When providers from your facility accompany a client for an emergency referral, do they often get scolded or treated with a negative attitude by the providers at the receiving facility? Would you say usually, sometimes, rarely or never? |
| Confidence in receiving facility | 614 | *(Ask nurse in-charge of maternal and newborn health care)* | Very confident 3  Somewhat confident 2  A little confident 1  Not at all confident 0 |
| How confident are you that when you refer a patient, they will get the care they need at the receiving facility? Would you say you are very confident, somewhat confident, a little confident or not at all confident? |

1. https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/csy/ect/acute-transfer-checklist.pdf?sfvrsn=1f6ef235\_1 [↑](#footnote-ref-1)